## ABSTRACT

An initial note series is collected from a real-time source of musical input material such as a keyboard or a sequencer playing back musical data, or extracted from musical data stored in memory. The initial note series may be altered to create variations of the initial note series using various mathematical operations. The resulting altered note series, or other data stored in memory is read out according to one or more patterns. The patterns may have steps containing pools of independently selectable items from which random selections are made. A pseudo-random number generator is employed to perform the random selections during processing, where the random sequences thereby generated have the ability to be repeated at specific musical intervals. The resulting musical effect may additionally incorporate a repeated effect, or a repeated effect can be independently performed from input notes in the musical input material. The repeated notes are generated according to one or more patterns, which may also have steps containing pools of random selections. A duration control means is used to avoid polyphony problems and provide novel effects. Pitch-bending effects may be additionally generated as part of the musical effect, or can be independently performed. A sliding control window may be utilized to achieve accurate and realistic pitch-bending effects. This method and the apparatus that can perform such a method have application to music and other data in general as well.